

ATTORNEY'S DOCKET NO. P0743/7001 (SJH)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Erik R. Deutsch, et al.  
Serial No: 09/975,169  
Filed: October 11, 2001  
For: ACTUATABLE DIFFRACTIVE OPTICAL PROCESSOR

Examiner: Not Yet Assigned  
Art Unit: 2872

CERTIFICATE OF MAILING UNDER 37 C.F.R. §1.8(a)

The undersigned hereby certifies that this document is being placed in the United States mail with first-class postage attached, addressed to Commissioner for Patents, Washington, D.C. 20231, on the 28 day of December, 2001

Signature

Customer Service Center  
Initial Patent Examination Division  
Commissioner for Patents  
Washington, D.C. 20231

Sir:

PRELIMINARY AMENDMENT

In response to the Notice to File Corrected Application Papers mailed November 19, 2001, please amend the above-identified application as follows:

IN THE SPECIFICATION

Please replace the paragraph beginning at line 9 of page 6 as shown.

FIGS. 7A-7I provide cross-sectional views of a simplified, exemplary fabrication sequence for producing an optical processor according to the present invention.

Please replace the paragraph beginning at line 11 of page 6 as shown.

FIGS. 8A-8I provide top views of a simplified, exemplary fabrication sequence for producing an optical processor according to the present invention.

Please replace the paragraph beginning at line 25 of page 14 as shown.

FIGS. 7A-7I and FIGS. 8A-8I will be discussed in conjunction with one another to describe a simplified, exemplary fabrication sequence for producing an optical processor such as the example embodiment of the present invention described above. The fabrication sequence discussed corresponds to the alternative embodiment discussed with reference to FIG. 3, wherein actuation beam support posts 353 of upper mirror suspension structure 350 are omitted by coupling actuation beam 352 to mirror beam 316 of the lower mirror suspension structure 315; accordingly, formation of support posts 353 is unnecessary. FIGS. 7A-7I provide cross-sectional views, corresponding to a view along line 4 - 4 of FIG. 2, of an example fabrication sequence for producing an embodiment of one example of an optical processor according to the present invention. FIGS. 8A-8I provide top views of an example fabrication sequence for producing an embodiment of one example of an optical processor according to the present invention. Some features illustrated in FIGS. 7A-7I and FIGS. 8A-8I are only visible through other features; such features are included for completeness, and will be indicated as visible through another feature. Reference will be made to features of optical processor 200 in FIG. 3 where helpful.

#### REMARKS

In response to the Notice to File Corrected Application Papers mailed November 19, 2001, the specification has been amended to remove reference to FIGs. 7J, 7K, 8J, and 8K. The examination should proceed without such figures.

Also, substitute FIGs. 1- 10, having margins in compliance with 37 CFR 1.84(g), are enclosed.

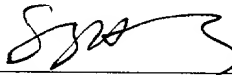
#### CONCLUSION

In view of the foregoing amendments and remarks, examination is requested.

If there is a fee occasioned by this amendment, including an extension fee, please charge any deficiency to deposit account No.23/2825.

Respectfully submitted.

***Erik R. Deutsch, Malcolm C. Smith, Michael A.  
Butler, and Stephen D. Senturia, Applicants***



---

by Steven J. Henry, Reg. No.: 27,900  
WOLF, GREENFIELD & SACKS, P.C.  
600 Atlantic Avenue  
Boston, MA 02210-2211  
Tel. no. (617) 720-3500  
Attorneys for Applicants

Attorney's Docket No. P0743/7001 (SJH)  
Dated: December 28, 2001

09/975,169 : 01/28/01

**Mark-Up showing Changes to Specification**

Mark-up of the paragraph beginning at line 9 of page 6 as shown.

FIGS. 7A-7[K]I provide cross-sectional views of a simplified, exemplary fabrication sequence for producing an optical processor according to the present invention.

Mark-up of the paragraph beginning at line 11 of page 6 as shown.

FIGS. 8A-8[K]I provide top views of a simplified, exemplary fabrication sequence for producing an optical processor according to the present invention.

Mark-up of the paragraph beginning at line 25 of page 14 as shown.

FIGS. 7A-7[J]I and FIGS. 8A-8[J]I will be discussed in conjunction with one another to describe a simplified, exemplary fabrication sequence for producing an optical processor such as the example embodiment of the present invention described above. The fabrication sequence discussed corresponds to the alternative embodiment discussed with reference to FIG. 3, wherein actuation beam support posts 353 of upper mirror suspension structure 350 are omitted by coupling actuation beam 352 to mirror beam 316 of the lower mirror suspension structure 315; accordingly, formation of support posts 353 is unnecessary. FIGS. 7A-7[J]I provide cross-sectional views, corresponding to a view along line 4 – 4 of FIG. 2, of an example fabrication sequence for producing an embodiment of one example of an optical processor according to the present invention. FIGS. 8A-8[J]I provide top views of an example fabrication sequence for producing an embodiment of one example of an optical processor according to the present invention. Some features illustrated in FIGS. 7A-7[J]I and FIGS. 8A-8[J]I are only visible through other features; such features are included for completeness, and will be indicated as visible through another feature. Reference will be made to features of optical processor 200 in FIG. 3 where helpful.